

Management and Asset Management

Issue for Discussion at the TRB Committee Summer Meeting

Introduction

The transportation community has been beating the drum of asset management for more than a decade. Under different names, it's been pursuing the same ideas for many more decades. After all of this time and discussion, we have the talk down pretty well, but the walk is still slow and stumbling. We've developed all—or most—of the tools. We can management pavements, bridges, tunnels, capacity, hardware and signs. We know how to integrate data. We can merge and compare competing modes or aspects of a given mode. And yet the famous “0 & 0” graphic—zero states doing no asset management and zero doing integrated asset management—is still accurate.

Two recent studies suggest the need to spend more time on other aspects of asset management. The World Bank just did a study of the factors that contributed to a country's success in adopting automated roadway management systems. Their key finding is quoted below:

What is apparent from the study is that agencies that are successful in their implementations have built strong foundations in all of the fundamental components over a number of years. First and foremost, they have developed an asset management mindset, that is, they explicitly and conscientiously implement policies that are geared towards managing their highway infrastructure as an asset whose value must be maintained and improved. Their executives and management promote asset management principles in order to ensure that funding and budget are allocated to appropriate areas. They are explicitly committed to the RMS, in the sense that it is built into their processes and procedures. They ensure that sufficient budget is available for data collection, for upgrades and maintenance of the systems, and for staff training and progression.

The other study is the international scan conducted by the FHWA a little over one year ago. After looking at the countries that are generally regarded as best in practice in asset management, one of the scan group's conclusions was:

Any sustained organizational effort requires the involvement of organizational leaders and champions. In all the sites visited, asset management practice has been occurring over at least 10 years and is continuing to evolve. Continuity in agency leadership and long-term organizational commitment to asset management as a business process were apparent in each case. Specific observations from the scan include the following:

- Top-level commitment (at the very highest levels) in support of asset management was apparent in every case.
- Asset management officials identified changing the culture of the organization to think of asset management as a key business area as a key challenge.
- Each agency had a management position or office responsible for asset management.

Both studies suggest that changing the culture and values of the organization is key to making asset management happen. If this is the case, we must ask the basic question: Do the managers of those organizations have the skills, knowledge and tools to bring about such change? If the answer is no, or probably not, then the TRB must ask itself if it should devote more time and effort to research, training and outreach on the issues of management, cultural development and change management.

Management Systems

If the premise of the introduction is found to be too pessimistic, we might look at the status of two of the basic components of asset management: pavement and bridge management.

Pavement management systems have been around for more than twenty years. A 2004 survey found that all 50 states and the District of Columbia had pavement management systems. The survey found that 16% of the agencies described their systems as decentralized. Since few states make pavement preservation decisions centrally, this suggests that 84% of the agencies have pavement management located away from the decision makers. The survey got to the issue of use more directly when it asked if the agency compared the output of pavement management with the actual pavement projects done. More than half did not make such a comparison. Of those making the comparison, half said the comparison was good; the other half rated it as fair or poor. Finally, the survey asked how the priority lists from pavement management were used. Were they an input factor into their key programs?

	Yes	No	Under Development
Pavement Preservation Program	64%	21%	15%
STIP	50%	39%	11%
TIP	44%	49%	7%

If half of the states did not use PMS as an input into STIPs and TIPs, this suggests that those systems had limited impact on the federally aided programs, which would require that projects be included in the STIP or TIP.

Pontis is the standard for bridge management in US. It was developed by the FHWA with lots of support and input from AASHTO and the entire transportation community. The most recent newsletter of the AASHTOware group that supports Pontis lists 41 states and a number of foreign countries as Pontis users. These are the states that pay a fee to license Pontis. This tells us that 41 states have the product; but, in a paper prepared to the 2003 conference on bridge management, half of the then 34 users only used the database to store inspection information. The other half used one or more of the other four modules. Even this doesn't tell us what the seventeen states were doing with the modules. It only tells us that they were using them. It does not tell us whether they actually influenced the investment decisions made by the agency.

In this quick scan of the literature, few studies were found that actually looked at how key management systems were being used. Those discussed above tried very hard to portray a balance in their conclusions, but it's difficult to escape the fact that less than half of the states even claim to be using the higher functionality of pavement and bridge management systems to influence how their investments are made.

If these well-developed tools are not being used, how could we expect new and much more sophisticated tools, such as those being studied to do intermodal investment analysis, to be used. To make progress, we have to look to the basics: What research, training and outreach are needed to enable transportation agencies to best use the tools that are already available and mature?

TRB Committee Meeting Agenda

The summer meeting of the TRB committee on asset management to be held in Michigan has a two-hour block of time for consideration of the issues outlined in the above discussion. The suggested agenda for that two-hour block of time is:

1. Discussion of the issue. What do the members of the committee feel about the issue? Is it a valid concern, a reasonable direction in which to try to move the current TAM effort? (15-30 minutes)
2. Which aspects of the issue is the TRB best able to address? Research? Training? Outreach? Other? (15-30 minutes)
3. What is the appropriate forum in which to address the aspects outlined above? NCHRP? NHI? TRB Annual Meeting? Other? (15 minutes)
4. Developing a plan. How should the various aspects of the issue and the forums in which they might be pursued be prioritized? What should be moved forward first and why? How do we get support from the agencies themselves? Where do the dollars come from? (30-45 minutes)
5. Report development. We are to share our work with the AASHTO committee later in the week. What should we say? (30 minutes)

References

Caltrans. 2005 Survey of Pavement Management Practices in State Highway Agencies.

FHWA. Summary of State Pavement Management Systems. 2004

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Robert, et al. Pontis Bridge Management System: State of the Practice in Implementation and Development. 9th International bridge Management Conference. 2003

World Bank. Success Factors for Road Management Systems.
<http://iris37.worldbank.org/domdoc/PRD/Other/PRDDContainer.nsf/>